

Ser. No. 09/578,474  
YOR919990486US1

2

### AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of conducting business electronically between a first party and a second party, comprising:

providing an intermediary relationship with a third party who knows an identity of the first party but no privacy-compromising information regarding a proposed electronic business transaction between the first and second parties; ~~and~~

conducting the electronic business transaction between said first and second parties through the third party by using a document; and

replacing, by said third party, identification data of said first party in said document with an identifier, and transmitting said document including said identifier to said second party, such that said identity of said first party is kept from the second party,

wherein said second party is provided with information identifying said first party ~~only~~ as a transactional party in said electronic business transaction, ~~and~~

~~wherein said providing said intermediary relationship with said third party comprises replacing identification data of said first party with an identifier in a document which is transmitted to said second part.~~

2. (Currently amended) A method of performing electronic commerce without a candidate customer being forced to disclose private data together with an identity of the candidate customer, to a business entity requiring said private data, said method comprising:

establishing an intermediary relationship with a third party between the candidate customer and the business entity;

providing a proprietary item to said customer such that the customer can be identified as a legitimate owner of the item without revealing the identity of said customer; ~~and~~

performing electronic commerce between said customer and said business entity through said third party, utilizing said proprietary item and a document; and

replacing, by said third party, identification data of said candidate customer in said document with an identifier, and transmitting said document including said identifier to said business entity, such that an identity of said customer is kept from said business entity,

Ser. No. 09/578,474  
YOR919990486US1

3

wherein said business entity is provided with information identifying said customer ~~only~~  
as a transactional party in said electronic business transaction, ~~and~~

~~wherein said establishing said intermediary relationship with said third party comprises  
replacing identification data of said first party with an identifier in a document which is  
transmitted to said business entity.~~

3. (Original) The method according to claim 2, wherein the customer establishes the relationship with the third party which serves for all further engagements with business entities.
4. (Original) The method according to claim 2, wherein a Fourth Party delivers to the customer a portable device P(C) which carries biometrics of the customer such that the customer can be identified as a legitimate owner of the portable device P(C) without revealing the identity of said customer.
5. (Original) The method according to claim 4, wherein the device P(C) delivers a number S(C) at each transaction, and the number S(C) is readable from the portable device P(C) only in the presence of the customer.
6. (Previously presented) The method according to claim 5, wherein said portable device P(C) generates numbers S(C,n), where n is an integer belonging to a set {1, 2, . . . , N}, and  
wherein for at least one of a new business entity and another partner of the customer, a new number n is chosen for all further transactions between the customer and said at least one of said new business unit and said another partner.
7. (Previously presented) The method according to claim 2, wherein the business entity chooses a set of verifiers  $V_j$ ,  $j = 1, 2, \dots, N$ ,  
wherein said verifiers are each equipped to verify portable devices, and are connectable to a network so as to output information to a third party T using privacy protection.
8. (Previously presented) The method according to claim 2, wherein said establishing an intermediary relationship includes sending by the customer to the third party said document to

Ser. No. 09/578,474  
YOR919990486US1

4

register with said business entity and software to encrypt the document using a public key  $pu1(I)$  included in a public signature scheme  $(Pr1(I), pu1(I))$  of the business entity,

said software further allowing the customer to compute a public signature scheme  $(Pr2(I,C), pu2(I,C))$ , said document being provided over a network connected to said business entity.

9. (Previously presented) The method according to claim 8, wherein the document comprises a header having identification data about the customer written together with a number  $S(C)$  associated with the proprietary item, and a body where personal or other data associated with said customer and  $pu2(I,C)$  are written after encryption using  $pu1(I)$ .

10. (Previously presented) The method according to claim 9, wherein when receiving the document, the third party replaces the header with a number  $N(T,C,I)$  which is sent to insurance entity with body of the completed document, wherein said business entity decrypts body and decides on an offer price if any, and

wherein a decision is communicated to the business entity after encryption using  $pu2(I,C)$  together with  $N(T,C,I)$ , and the business entity forwards  $pu2(I,C)(D)$  to the customer.

11. (Previously presented) The method according to claim 2, wherein, before establishing an intermediary relationship, the customer accesses one or more verifiers  $V_j$ , and

wherein the customer identifies itself to each verifier  $V_j$  using a number  $S(C)$  associated with the proprietary item, and requests  $V_j$  to send  $S(C)$  to the business entity, together with data verified by  $V_j$ .

12. (Previously presented) The method according to claim 11, wherein communication to the business entity is performed by appending to the number  $S(C)$  a non-identity data relevant to the customer encrypted using  $pu1(I)$ .

13. (Previously presented) The method according to claim 11, wherein a link between the

Ser. No. 09/578,474  
YOR919990486US1

5

third party and the business entity is provided by the third party posting one or more completed documents on a dedicated world-wide-web (WWW) page after replacing said identification data with said identifier, and

wherein said identifier comprises a number  $N(T, C, I)$  which allows the business entity, but no other party, to recognize this number as a number associated with the business entity.

14. (Previously presented) The method according to claim 2, wherein a payment between a business entity and a third party is documented by a paying party by attaching a tagging number to the payment,

said tagging number being communicated to a bank of the paying party, and accompanies a transaction order to the bank of the payee, and

wherein the paying bank authorizes a money transfer in exchange for a tag coded using a private key of the payee's bank.

15. (Previously presented) The method according to claim 2, wherein, with a relationship between the customer and the business entity previously established, the business entity interacts with the customer identified as a counterpart.

16. (Previously presented) The method according to claim 15, wherein, when a transaction request is submitted, the customer addresses the transaction request to the third party, after selectively consulting with one or more verifiers  $V_j$ .

17. (Original) The method according to claim 16, wherein, after processing the transaction request, the business entity sends a communication encrypted using a public key  $pu_2(I, C)$ , to the third party, and said third party transmits the encrypted communication to the customer.

18. (Original) The method according to claim 17, wherein said communication includes one of a payment, a request for further data, and a declination of the transaction request.

19. (Previously presented) The method according to claim 2, further comprising:  
selecting a purveyor of good or services as the business entity.

Ser. No. 09/578,474  
YOR919990486US1

6

20. (Original) The method according to claim 2, wherein the proprietary item comprises a device P(C) which delivers a number S(C) at each transaction, and the number S(C) is readable from the device P(C) only under authorization from the customer.
21. (Original) The method according to claim 2, wherein the business entity chooses a set of verifiers  $V_j$ , where  $j = 1, 2, \dots, N$ .
22. (Original) The method according to claim 2, wherein said item carries biometrics of the customer.
23. (Original) The method according to claim 2, wherein said third party receives the identity of the customer, and said business entity receives information other than the identity of the customer.
24. (Previously presented) A method of selecting a purveyor of goods or services in a confidential manner over a network, comprising:
- sending, by a customer to a third party, an application and software for encrypting the application using a public key  $pu1(I)$ ,
  - wherein said application is taken electronically from a business entity,
  - wherein a public signature scheme of said business entity is  $(Pr1(I), pu1(I))$ , software allowing the customer to compute a public signature scheme  $(Pr2(I, C), pu2(I, C))$ , and
  - wherein said business entity is provided with information identifying said customer only as a transactional party in said electronic business transaction,
  - wherein said third party replaces identification data of said customer with an identifier in said application which is transmitted to said business entity,
  - wherein said method further comprises:
    - establishing a customer-purveyor contact over the network, said establishing comprising
    - when submitting a transaction request, encrypted using  $pu1(I)$ , the customer addresses the request to the third party, after selectively accessing one or more verifiers  $V_j$ ;

Ser. No. 09/578,474  
YOR919990486US1

7

transmitting, by the third party T, the transaction request to the business entity after removing a header and attaching a number  $N_{\text{transaction}}(T, C, I, \text{Transaction})$  thereto;  
processing the request by the business entity;  
sending, by the business entity, a communication to the third party;  
transmitting said communication, after or while processing the transaction request, to the third party, said request being encrypted using the public key  $pu2(I, C)$ ; and  
transmitting, by the third party, the communication to the customer.

25. (Previously presented) The method according to claim 24, wherein the application includes a header where said identification data is written together with a number  $S(C)$ , and a body where other data of the customer and the key  $pu2(I, C)$  is written after encryption using the public key  $pu1(I)$ .

26. (Previously presented) The method according to claim 25, wherein when receiving the application, the third party replaces the header with said identifier which comprises a number  $N(T, C, I)$  which is sent to the business entity with the completed body of the application.

27. (Original) The method according to claim 26, wherein the business entity decrypts the body using  $Pr1(I)(pu1(\text{DATA}))$  and makes a decision D on whether to proceed and if so, an offer price, and

wherein the decision D is communicated to the third party after encryption using public key  $pu2(I, C)$  together with the number  $N(T, C, I)$ , and

wherein the third party, using the number  $N(T, C, I)$  to recognize the customer, sends the public key  $pu2(I, C)(D)$  to the customer, who decrypts using a private key  $Pr2(I, C)$  to obtain  $D = Pr2(I, C)(pu2(I, C)(D))$ .

28. (Previously presented) The method according to claim 24, wherein before sending said application to the business entity, the customer accesses one or more verifiers.

29 - 32. (Canceled)

Ser. No. 09/578,474  
YOR919990486US1

8

33. (Previously presented) The method according to claim 24, wherein the communication includes one of a payment, a request for further data, and a declination of part or all of the transaction.

34. (Currently amended) A system for conducting business electronically between a first party and a second party, comprising:

means for providing to a third party an identity of the first party but no privacy-compromising information regarding a proposed electronic business transaction between the first party and second party; and

means for conducting the electronic business transaction between said first party and second party through the third party by using a document; and

means for replacing, by said third party, identification data of said first party in said document with an identifier, and transmitting said document including said identifier to said second party, such that said identity of said first party is kept from the second party,

wherein said second party is provided with information identifying said first party ~~only~~ as a transactional party in said electronic business transaction, ~~and~~

~~wherein said third party replaces identification data of said first party with an identifier in a document which is transmitted to said second party.~~

35. (Currently amended) A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for conducting business electronically between a first party and a second party, said method comprising:

providing to a third party an identity of the first party but no privacy-compromising information regarding a proposed electronic business transaction between the first and second parties; and

conducting the electronic business transaction between said first and second parties through the third party by using a document; and

replacing, by said third party, identification data of said first party in said document with an identifier, and transmitting said document including said identifier to said second party, such that said identity of said first party is kept from the second party,

Ser. No. 09/578,474  
YOR919990486US1

9

wherein said second party is provided with information identifying said first party ~~only~~ as a transactional party in said electronic business transaction, ~~and~~

~~wherein said third party replaces identification data of said first party with an identifier in a document which is transmitted to said second party.~~

36. (Currently amended) A system for performing electronic commerce without a candidate customer being forced to disclose private data together with an identity of the candidate customer to a business entity requiring said private data, said system comprising:

means for establishing an intermediary relationship with a third party between the candidate customer and the business entity;

a proprietary item provided to said customer such that the customer can be identified as a legitimate owner of the item without revealing the identity of said customer; ~~and~~

means for performing electronic commerce between said customer and said business entity through said third party, utilizing said proprietary item and a document; and

means for replacing, by said third party, identification data of said candidate customer in said document with an identifier, and transmitting said document including said identifier to said business entity, such that an identity of said customer is kept from said business entity,

wherein said business entity is provided with information identifying said candidate customer ~~only~~ as a transactional party in said electronic commerce, ~~and~~

~~wherein said third party replaces identification data of said customer with an identifier in a document which is transmitted to said business entity.~~

37. (Currently amended) A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of performing electronic commerce without a candidate customer being forced to disclose private data together with an identity of the candidate customer to a business entity requiring said private data, said method comprising:

establishing an intermediary relationship with a third party between the candidate customer and the business entity;

providing a proprietary item to said customer such that the customer can be identified as a legitimate owner of the item without revealing the identity of said customer; and



Ser. No. 09/578,474  
YOR919990486US1

10

performing electronic commerce between said customer and said business entity through said third party, utilizing said proprietary item and a document; and

replacing, by said third party, identification data of said candidate customer in said document with an identifier, and transmitting said document including said identifier to said business entity, such that an identity of said customer is kept from said business entity,

wherein said business entity is provided with information identifying said customer only as a transactional party in said electronic commerce; and

~~wherein said third party replaces identification data of said customer with an identifier in a document which is transmitted to said second party.~~

38. (Currently amended) A method of conducting business electronically between a first party and a second party, comprising:

providing an intermediary relationship with a third party who knows an identity of the first party but no privacy-compromising information regarding a proposed electronic business transaction between the first party and the second party; and

conducting the electronic business transaction between said first party and said second party through the third party by using a document; and

replacing, by said third party, identification data of said first party in said document with an identifier, and transmitting said document including said identifier to said second party,

such that said identity of said first party is kept from the second party, but second party can obtain confidential data about first party that do not compromise the identity of said first party;

~~wherein said third party replaces identification data of said first party with an identifier in a document which is transmitted to said second party.~~

39. (Currently amended) A method of conducting business electronically between a first party and a second party, comprising:

providing an intermediary relationship with a third party who knows an identity of the first party but no privacy-compromising information regarding a proposed electronic business transaction between the first and second parties, said third party enabling communications between the first and second party and having access to the identity but not to the content or the nature of the transaction; and

Ser. No. 09/578,474  
YOR919990486US1

11

conducting the electronic business transaction between said first and second parties  
through the third party by using a document; and

replacing, by said third party, identification data of said first party in said document with  
an identifier, and transmitting said document including said identifier to said second party, so  
that the identity of said first party is not available to the second party,

wherein said second party receives confidential data about said first party unrelated to the  
identity of said first party, and

~~wherein said third party replaces identification data of said first party with an identifier in~~  
~~a document which is transmitted to said second party.~~

40. (Previously presented) The method of claim 39 wherein said first party authorizes said  
second party to receive confidential data about said first party.

41. (Currently amended) A method of performing electronic commerce without a candidate  
customer being forced to disclose private data together with an identity of the candidate  
customer, to a business entity requiring said private data, said method comprising:

establishing an intermediary relationship with a third party between the candidate  
customer and the business entity;

providing a proprietary item to said customer such that the customer can be identified as  
a legitimate owner of the item without revealing an identity of said customer; and

performing electronic commerce between said customer and said business entity through  
said third party, utilizing said proprietary item and a document; and

replacing, by said third party, identification data of said first party in said document with  
an identifier, and transmitting said document including said identifier to said second party, such  
that the identity of said customer is unknown to said business entity,

wherein said third party can recognize, without having access to an identity, each  
customer to conduct business over an extended period of time and in repeated interactions, and  
accumulate all data needed to service the customer, to conglomerate such data to provide a  
customer history or subject the data to data mining technologies; and

~~wherein said third party replaces identification data of said customer with an identifier in~~  
~~a document which is transmitted to said business entity.~~

Ser. No. 09/578,474  
YOR919990486US1

12

42. (Previously presented) The method according to claim 41, wherein said proprietary item is designed so that it cannot have more than one legitimate owner.

43. (Previously presented) The method according to claim 41, wherein the relationship between the customer and the third party remains fixed for all further engagements with said business entity.

44. (Previously presented) The method according to claim 41, wherein said proprietary item is provided to said first party by a fourth party.

45. (Previously presented) The method according to claim 41, wherein a fourth party delivers to the customer a portable device P(C) which carries biometrics of the customer such that the customer can be identified as a legitimate owner of the portable device P(C) without revealing the identity of said customer.

46. (Previously presented) The method according to claim 44, wherein said fourth party delivers to the customer a portable device P(C) which carries biometrics of the customer such that the customer can be identified as a legitimate owner of the portable device P(C) without revealing the identity of said customer.

47. (Previously presented) The method according to claim 1, wherein said conducting said electronic business transaction comprises conducting said electronic business transaction such that knowledge of an ongoing relationship between the first and second parties is kept from the third party.

48. (Previously presented) The method according to claim 1, wherein said replacing said identification data of said first party comprises replacing data in a header of said document with a number corresponding to said first party.

49. (Previously presented) The method according to claim 1, further comprising:

Ser. No. 09/578,474  
YOR919990486US1

13

receiving said document by said second party, said document including said identifier in place of said identification data.

50. (Previously presented) The method according to claim 1, wherein said providing said intermediary relationship with said third party comprises transmitting, by said first party, said document including said identification data to said third party, and

wherein said conducting said electronic business comprises after said replacing said identification data by said third party, transmitting said document to said second party.

51. (New) The method according to claim 1, wherein said document comprises an electronic document.

52. (New) The method according to claim 1, wherein said conducting the electronic business transaction comprises conducting the electronic business transaction via the Internet, said document comprising an electronic document.